

# CANE HOLDER

## BACKGROUND OF THE INVENTION

### 1. Field of the Invention

This invention relates to holders for walking canes, and more particularly to a  
5 cane holder for securing a cane on or about the person of the user, but which allows  
the user to have free use of his or her hands when the cane is not in use, and wherein  
the cane is held on the person of the user within easy reach when needed.

### 2. Preliminary Discussion

10 In recent years, the number of persons who might require the assistance of a  
cane while walking has increased significantly. Such increase is due primarily to the  
gradual overall aging of the population, which in turn can be attributed in large degree  
to significant advances in medicine and generally improved living conditions. However,  
such medical advances have also allowed younger individuals suffering from particular  
15 maladies or who are partially incapacitated as a result of an accident or other  
happening, which persons might otherwise be incapable of walking or moving around at  
all, to regain at least some of their mobility more quickly than in the past with the  
assistance of a device such as a cane.

Although canes can be enormously effective in aiding one's mobility by partially  
20 transferring the user's weight from the legs to the arms as well as by steadying such  
person, in effect providing three legs rather than only two, most cane users also find  
that it is desirable to have a means for quickly and effectively temporarily storing such  
cane when it is not in use. For example, during times when the user is sitting down or

in a resting position, the cane is not required to be used, but preferably should be stored within easy reach of the user for convenient retrieval when such cane is again required for use. However, often there is no convenient or practical place to store or rest the cane within easy reaching distance. If the cane is placed temporarily aside, 5 older users not only may forget where it was placed, but the cane may be precariously placed, and when an attempt is made to recover it, frequently it will be just out of reach or may have been knocked down or over or may have slid to the floor where it can itself constitute a tripping hazard. In addition, many cane users do not have the ability, vision, or range of motion to easily walk, bend, or otherwise move to recover a cane 10 which may have been resting against a wall and fallen to the floor, whereon it may have become a tripping hazard or danger itself not only to the user but to others. Not infrequently, the cane user himself or herself may knock over a standing cane and then have difficulty in recovering it or even be unable to recover it from the floor. On the other hand, a cane user often does not wish to hold the cane when it is not required, as 15 he or she wishes to have his or her hands free to perform other tasks, such as preparing food, opening medicine bottles, eating, writing, using the telephone, or sometimes the cane owner simply wants to rest without having to grasp the cane.

While various approaches have been attempted and frequently adopted for either holding a cane nearby the user or in a vertical position or both, there are also a 20 wide variety of sizes, shapes, styles and other structural differences between canes. Often, a user will have several different canes, each having slightly different dimensions. For example, while most canes have a generally rounded shaft, others may have a generally oval or even square or rectangular shape. There is also a wide

variance in the types of handles among different canes, as well as differences in the diameters of the shafts of canes. Thus, any holding device for canes must be able to be used on a variety of differently dimensioned canes. Such device should preferably also be able to hold the cane clear of the floor while standing and relatively close to the owner and more or less upright when sitting in order to prevent a tripping hazard.

### 3. Review of Related Art

A wide variety of straps, slings, lanyards or leashes for carrying or holding items such as bags, fanny packs, skis, canes, umbrellas and the like on one's person or secured to a nearby surface are known in the prior art. The disclosures of the following patents provide a general overview of the kinds of cane holders and similar or related holders that have heretofore been available or devised.

U.S. Pat. No. 439,423 issued to J.B. Potts entitled "Umbrella or Cane Holder" discloses a U-shaped clip which is pinned to the user's garments and wherein the cane is inserted and gripped between the arms of the clip.

U.S. Pat. No. 702,398 issued to E.M. Bowyer entitled "Supporting Device" discloses a snap-type umbrella or parasol holder which in use is secured about the waist of the user by a belt and having elastic loops which are snapped around the umbrella.

U.S. Pat. No. 3,279,663 issued to R.J. Torres entitled "Umbrella and Sling Therefor," discloses a simple adjustable strap having a small ring secured to one end that is hooked over the pointed ferrule on one end of an umbrella, with a snap hook secured to the opposite end of the sling that is clipped to a swivel just above the handle

area of the umbrella, creating a sling which can be hung over the shoulder of the user.

U.S. Pat. No. 4,300,742 issued to D.C. Hunn entitled "Cane Holder" discloses a spring clamp device for holding a cane in a vertical position secured to a table or the like, rather than on or attached to the body of the user.

5 U.S. Pat. No. 4,884,730 issued to C.L. Carpenter entitled "Cane Guard" is designed to help a user recover his or her cane if it is dropped and consists of a hook-and-loop type fastener and rubber O-ring which are affixed around the shaft of a cane and a retractable chain secured around the waist or belt of the user.

10 U.S. Pat. No. 4,958,758 issued to J.E. Tipple et al. entitled "Multi-Looped Cane Retaining Strap," discloses a strap which is secured to the wrist of the user by a hook-and-loop type wrap and having a flexible leash that is looped around the shaft of a cane and is adjustably tightened by a crimping-type fastening means.

15 U.S. Pat. No. 5,431,319 issued to M. Cavadini et al. entitled "Holder for a Coin Cup" discloses a strap which is looped around the neck of the user and attached to a circular platform for holding a coin cup used in casinos while playing slot machines and the like.

U.S. Pat. No. 5,622,292 issued to P. Dorney entitled "Detachable Strap for a Plastic Yard of Ale," comprises a shoulder strap or lanyard having a hook-and-loop type fastener on one end for removably securing to an ale glass.

20 U.S. Pat. No. 5,758,808 issued to R.P. Epps et al. entitled "Cane Positioning Strap," discloses a strap for holding a cane or similar article in a vertical position when not in use, comprised of an adjustable sling strap and a hook-and-loop or snap type retaining strap. While Epps et al. provides a strap for holding a cane over a chair or

arm of the user until it is needed, such reference does not disclose a cane-engaging member similar to the present inventor's.

Other devices, such as U.S. Pat. No. 5,826,605 issued to W.W. Hilton entitled "Impact Responsive Extendible Arm Pick-Up for Walking Cane or the Like" are  
5 designed to facilitate raising a fallen cane or crutch to an upright position, rather than preventing such cane from falling. In Hilton, an arm member attached to the cane automatically extends or pivots upwardly when the cane or crutch is dropped so that the owner can simply grab the arm and pull the cane up without bending to retrieve the cane.

10 U.S. Pat. No. 5,964,385 issued to W.H. Simon entitled "Cane Retrieval Device," discloses a retractable cord attached to the wrist of the cane user and secured near the curved holding area of the cane. Such device, however, requires that a housing be attached to the wrist of the user, which is both inconvenient and uncomfortable.

15 U.S. Pat. No. 6,000,414 issued to J.B. Crusor entitled "Cane Holding Apparatus and Method," discloses a holding device wherein a hook-and-loop type material is attached to the cane and a flexible panel attached to the belt of the user so that the cane is detachably held to the belt panel.

Despite the wide variety of straps and slings known in the prior art, none of such devices addresses the problem of holding or carrying and positioning differently sized  
20 and shaped canes when not in use in the same manner as the present invention.

Furthermore, there is still presently a need for a device for holding canes that can be temporarily held in a vertical position in close proximity or reach of the user with the cane well above the floor when standing, plus preferably secured to one's person most

preferably in a manner that maintains the cane reasonably upright and within close reach of the user when sitting or reclining.

## OBJECTS OF THE INVENTION

A primary object of the invention is to provide a convenient means for temporarily holding a cane so that the owner's hands are free to perform various everyday tasks.

A still further object of the invention is to provide a cane holder wherein the cane  
5 is held in close proximity to the owner so that it is quickly available when needed.

A still further object of the invention is to provide a cane holder wherein the cane is temporarily secured via the cane holder to a lanyard around the neck of the owner or user, thus avoiding inadvertent loss or misplacement of the cane.

A still further object of the invention is to provide a cane holder wherein the cane  
10 is temporarily secured via the cane holder around the neck of the owner or user so the cane is held clear of the floor while standing.

A still further object of the invention is to provide a cane holder that is adapted to easily hold canes of various shapes and diameters.

A still further object of the invention is to provide a cane holder that is attractive,  
15 durable, and is also inexpensive to manufacture.

A still further object of the invention is to provide a cane holder incorporating at least two interconnecting cane-retaining orifices as well as being constructed from a semi-flexible composition that facilitates various alternative modes for securing such cane.

20 A still further object of the invention is to provide a cane holder made of a strong but resilient material that allows the holder to adapt to and retain a variety of canes.

A still further object of the invention is to provide a method of handling a cane in conjunction with a cane holder that allows one or more of a variety of canes to be

conveniently kept with the user during non-use.

A still further object of the invention is to provide a cane holder having physically interconnecting openings of disparate size allowing a cane to be entered first into a larger opening and then moved into a smaller opening providing a more secure  
5 retention of the cane.

A still further object of the invention is to provide a cane holder having interconnecting disparate shaped openings wherein the holder is formed from a strong resilient material that may be deformed to allow a cane to be pressed into an opening or moved between two openings while temporarily deforming the holder material  
10 between the openings.

A still further object of the invention is to provide a cane holder having interconnecting openings of disparate sizes which holder is formed from a strong resilient material that will allow reasonably sized cane heads to be urged or forced through an appropriate opening and then the shaft of the cane to be moved to a smaller  
15 opening appropriate to either retain the shaft of the cane by substantially surrounding said shaft or more preferably to actually grip the sides of the cane by resilient compression.

Still other objects and advantages of the invention will become clear upon review of the following detailed description in conjunction with the appended drawings.



## SUMMARY OF THE INVENTION

A novel cane holding device is designed to make a cane available for immediate use by a cane user while maintaining the user's hands free to perform other tasks when the cane is not required. In the invention, the cane is secured by a holding device to a lanyard or short cord preferably around the neck of the user. The holding device is made from a pliable resilient rubber or plastic material which is easily forced around the cane and in which the cane is held in place. The exact design or nature of the holding device may depend on the contour or shape of the cane. However, the cane holder is designed to accommodate in any one embodiment a variety of shapes and sizes of canes. The holding device has a first or larger opening or orifice into or through which the cane head or handle is first slipped, and a second or smaller interconnecting opening or orifice into which the cane shaft can then be squeezed or forced from the larger opening or orifice through the interconnecting channel between the larger and smaller openings or orifices to more securely hold the cane. A larger cane may remain in the larger opening or orifice. The cane holder is temporarily secured to or held on or with respect to the body of the user above the waistline of the user so that the cane does not touch the floor when the user is standing and does not otherwise become a tripping hazard either when standing or sitting. To remove the cane from the holding device, the cane shaft may be squeezed back into the larger hole and the cane then slipped out of the holding device. The cane holder of the invention is, therefore, to a large extent a single device that because of its adjacent interconnecting openings, or orifices, as well as its resilient nature, is readily adaptable to securely holding a variety of cane designs in various suitable orientations within the holder depending upon the

relative size and shape of both the holder and cane.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is an isometric view of a preferred embodiment of the cane holder of the invention with a cane in the process of being placed in such holder as well as shown in broken lines already placed in the holder.

5        FIG. 2 is an isometric view of the cane holder shown in FIG. 1 in use by or being worn by a cane user with a cane being supported by such holder while the user is in a standing position.

10        FIG. 3 is an isometric view of an alternative embodiment of the cane holder of the invention with a cane in the process of being placed in such holder as well as in broken lines already placed in the holder.

15        FIG. 4 is an isometric view of the alternative embodiment of the cane holder of the invention shown in FIG. 3 with the cane being supported by such holder while the user is in a seated position.

20        FIG. 5 is an elevation of a preferred embodiment of the cane holder of the invention similar to that shown in FIG. 1.

5.        FIG. 6 is a side view of the preferred embodiment of the invention shown in FIG. 5.

FIG. 7 is a cross-section of the cane holder along section 7-7 of FIG. 5.

FIG. 8 is a cross-section of the cane holder along section 8-8 of FIG. 5.

20        FIG. 9 is an elevation of the alternative embodiment of the invention shown in FIGS. 3 and 4.

FIG. 10 is a side view of the alternative embodiment of the invention shown in FIG. 9.

FIG. 11 is a cross section of the alternative embodiment cane holder along Section 11-11 of FIG. 9.

FIG. 12 is a cross section of the alternative embodiment cane holder along section 12-12 of FIG. 9.

5 FIG. 13 is an elevation of a less preferred embodiment of the cane holder of the invention in accordance with the invention wherein the upper portion of the holder including the upper opening has a more rectangular configuration.

FIG. 14 is a side view of the embodiment of the cane holder of the invention shown in FIG. 13.

10 FIG. 15 is a sectional view of the construction of the cane holder at section 15-15 in FIG. 13.

FIG. 16 is a sectional view of the cane holder construction at section 16-16 in FIG. 13.

15 FIG. 17 is a sectional view of the construction of the holder at section 17-17 in FIG. 13.

FIG. 18 is an elevation of an alternative upper section construction for the ring mounting section or portion of the holder shown in FIG. 13.

FIG. 19 is a side view of the alternative top on a ring mounting section of the holder shown in FIG. 13 as shown in FIG. 18.

20 FIG. 20 is an elevation of a still further embodiment of the invention incorporating three interconnected orifices of gradually decreasing orifice size.

FIG. 21 is a still further alternative version of the invention in which a series of four gradually decreasing size orifices are provided in an elongated cane holder body.

FIG. 22 is a diagrammatic view of a simple snap-type connector for convenient fastening and unfastening of the strap or lanyard to the cane holder of the invention.

FIG. 23 is a diagrammatic view of the snap-type connector of the invention in buckled, connected or closed position.

- 5 FIG. 24 is an elevation of a modified version of the cane holder invention shown in FIG. 7, but with a different configuration to the ends of the larger orifice and a laterally extended lanyard connector loop suitable to incorporate either a flat or round lanyard structure.

10 FIG. 25 is an elevation of an alternative version of the cane holder of the invention in which the entire holder is expanded outwardly about the larger orifice section as shown in FIGS. 5 and 24 but in which the larger opening may be further accessed through a sliding spring biased closure at one side and also including the laterally extended lanyard connector loop shown in FIG. 24 to accommodate a flat lanyard.

## DESCRIPTION OF THE PREFERRED EMBODIMENTS

The following detailed description is of the best mode or modes of the invention presently contemplated. Such description is not intended to be understood in a limiting sense, but to be an example of the invention presented solely for illustration thereof, and by reference to which in connection with the following description and the accompanying drawings one skilled in the art may be advised of the advantages and construction of the invention.

The cane holder of the invention essentially provides an essentially closed ring arrangement into which a cane, whether a conventional walking stick having a curved upper portion serving as a handle, an English cane having a separate angled cross piece at the top serving as a handle, or a so-called swagger stick type cane having a bulbous grasping or hand hold portion at the top, can be slipped or thrust for retention until needed for support during walking or the like. The holder of the invention is adaptable to nearly every size and shape cane, as well as surface characteristic of canes whether knurled or smooth surfaced and also to varying combinations of handles and shafts and the like. The holder arrangement can be attached to the body of the user in various suitable manners but is preferably secured to or worn from a lanyard which preferably goes around the neck but can pass over or around some other portion of the body of the user.

The cane holder of the invention, while related generically to a basic ring-type holder, sometimes used for support of the scabbard of a bayonet or the like, is significantly more sophisticated, since, instead of being provided with a single orifice, there are at least two separate different diameter orifices adjacent to each other with a

restricted dimension access channel or transverse opening between such orifices. This allows a cane to be slid into the larger opening and then moved through the access channel or connecting opening into the smaller orifice or opening in which it may be better held or retained. The cane holder of the invention is, furthermore, preferably

5 formed of a resilient material such as low density polyethylene plastic that normally retains its shape, but can be deformed by a steady force allowing a cane shaft of a larger size than the transverse opening between adjacent orifices to be forced through such opening either into or out of the smaller orifice of the holder. Other suitable materials such as a smooth surfaced rubber could also be used. The resilience of the

10 material of the holder also allows the inside surfaces of the holder to be physically stretched and forced over the head of a cane rather than having to pass the shaft of the cane all the way through the orifice from the other end. In such instance the orifice or opening of the holder is stretched over the head of the cane and then constricts around the shaft. The stiffness of the material is great enough to prevent deformation by any

15 normally or likely application of accidental force and consequent slipping of the cane from the holder. A steady deliberate force, however, will temporarily deform the plastic so that a cane can either be forced from one orifice into a smaller orifice, or the larger orifice can be forced over the head of a cane where such head is too large to slip through the larger orifice, and it is not desired to slip the cane into the orifice from the

20 lower end. The combination of having at least two interconnected orifices in the holder plus construction of such holder from a stiff yet deformable and resilient material provides a very effective and adaptable cane holder that can accept a variety of canes of different designs and diameters. Furthermore, varying the sizes of the orifices

adapts the cane holder to the alternative varieties and sizes of canes. Thus, a set of three separate cane holders constructed in accordance with the invention with progressively larger openings from the smallest to the largest holder will provide a suitable cane holder for almost any conceivable cane. In addition, the invention is not limited to having only two orifices in the cane holder, but could also incorporate more than two interconnecting orifices such as, for example, three orifices of varying size, four orifices of varying size or the like. Such interconnecting orifices can also be arranged in varying ways, for example, in a three orifice cane holder with two of the orifices interconnecting with the third, or alternatively with the orifices interconnecting in serial order. It is preferred, however, for there to be only two orifices, since two orifices are sufficient, particularly when combined with the flexibility of the holder material, to adapt to a variety of canes. Furthermore, a two-orifice holder will then be inherently smaller and more compact, providing a neater appearance and requiring less attention when using. For example, when there are more than two orifices, more attention will have to be given to placement of a cane in the correct orifice and then moving it to an adjacent smaller orifice, or even, if the cane is of suitable size to be both initially deposited or placed into one orifice and also retained in such orifice, to pick the most suitable orifice. Thus it is usually more convenient to have a cane holder in accordance with the invention with only two or at most three interconnected orifices, but in accordance with the invention it could have from two to a significant number of orifices arranged in some suitable interconnecting order.

Referring to **FIG. 1**, a cane holder **10** in accordance with the invention for temporarily holding or supporting a cane is shown in isometric projection. The holder



**10** per se includes a generally arcuate cane-engaging outer member **12**, shown in more detail in **FIG. 5**, comprising a generally arcuate member or section **14** surrounding or defining a generally elongated arcuate opening or orifice **16** within or adjacent to its outer or "lower" end or section **18** combined and interconnecting with a generally smaller arcuate member or section **20** surrounding or defining a second smaller more nearly circular arcuate opening or orifice **22** adjacent to and interconnected with opening or orifice **16**. Both openings **16** and **22** are dimensioned to receive and demountably support a cane, or more particularly the shank or shaft of a cane, within their circumferences, i.e. in interior openings or orifices **16** and **22**. The two generally arcuate cane engaging outer ring members **14** and **20** are connected to each other on opposite sides at **26**, and the two openings or orifices **16** and **22** interconnect through short restricted passage **24** between inwardly protruding side sections **26a** and **26b**. It will be noted that side sections **26a** and **26b** not only project inwardly to form the interconnecting restricted passage **24**, but also the side sections **26a** and **26b** have an increased bulk or mass which serves to stiffen this portion of the cane-engaging outer member **12** of the holder **10**. These heavier sections in effect "beef up" the outer member **12** of the holder at this point so passage of a walking cane shaft through the interconnecting passage **24** is resisted more strongly.

Holder **10** also particularly includes as a substantially integral part thereof a lanyard **27** generally having an upper or outer end **28** and lower or inner end **30**, such lanyard **27** being of sufficient length to fit over the head and around the neck of the user or wearer of the cane holder of the invention. Lanyard **27** can be made from a variety of materials such as leather, polypropylene, or other flexible plastic, but is preferably

made from woven nylon or other similar plastic material. First and second ends **29** and **31** of lanyard **27** are joined together by a compression fitting **32**, although other suitable fastening means or fittings may also be used. Although the lanyard **27** can be slipped over the head of the wearer, a means for detachably connecting such lanyard **27** is also preferably provided, such as by the plastic slip connection formed by the compression fitting **32** comprising a resilient plastic sleeve into which the ends **29** and **31** of the lanyard may be slipped or forcibly inserted. The compression of the sleeve **32** is sufficient to normally hold the ends of the lanyard in place or together, but not sufficient to prevent one or both ends from being released if a sufficient force is exerted, for example, if the lanyard should become snagged upon some object. A second more loosely fitted compression fitting **34**, which may be forcibly slidable on the lanyard serves to keep the lower portions of the lanyard together and an upper spring loaded pinch clamp **36** having a threaded tightening means or screw **38** can be used to adjust the length of the loop in the lanyard **27** so that it goes over the user's head and around his or her neck, but is not too loose. The spring loaded pinch clamp **36** in particular, therefore, serves to, in effect, adjust the length of the lanyard both for passage over the head of the user and to adjust how low the cane holding fitting **10** will be supported upon the user. A releasable snap fitting **39** preferably attaches to the end of the lanyard as well as to a support ring **48** attached to the cane holder **10**. As well known in the art, compression of the snaps **39a** serves to release the two sections of the releasable snap fitting **39**. Where the lanyard does not require any adjustment as to length such as when it is used by a fairly good-sized man, the adjustable pinch clamp **36** may be dispensed with.

**FIG. 2** shows the lanyard **27** and cane holder **10** being worn by a user **46** in a standing or slowly walking upright position. The cane holder **10** is more or less dependent from the lanyard **27** and the cane is positioned in the upper or smaller orifice **22** of the cane holder effectively supporting the cane, since the head is too large to pass through the smaller orifice **22** and the shaft **44** of the cane is also too large to pass through the interconnecting opening **24** (see **FIG. 1**) between the inwardly projecting side sections **26a** and **26b** of the outer ring **12** of the cane holder. In order to remove the cane its shaft will be first pressed through the interconnecting opening **24** between the resilient inwardly projecting side extensions **26a** and **26b** (see **FIG. 1**) into the large opening **16**, at which point the resiliency of the cane holder material allows the cane head **42** to be moved or pressed downwardly through the orifice **16** or, if the user prefers, the cane can be merely lifted upwardly until the end of the shaft clears the ring **14**. Of course, if the head **42** is in fact smaller than the transverse or minor width of the orifice or opening **16**, the cane holder ring **14** will merely be slipped past or over the head **42** of the cane **44**. Alternatively, if the head **42** of the cane is not too large, it can be forced through the orifice **16** by forcibly expanding or deforming the flexible material of the ring **14** portion of the cane holder **10**.

**FIG. 3** is an isometric view of an alternative embodiment of the cane holder of the invention in which the same structure as those shown in **FIGS. 1** and **2** are designated by the same reference numerals and similar but somewhat different structures are designated by the same reference numeral with the addition of a "c" to such reference numeral and in which the structure of the cane holder is generally similar to that shown in **FIGS. 1, 2** and **5** except that the larger opening **16c** of the cane

holder constituting more than one-half of the entire cane holder ring **18c** has a more round or oval configuration generally similar to that of the smaller opening **22c** rather than having an oblong configuration with a significant dimension from side to side as shown in the opening **16** of **FIG. 1**. The operation of the holder is essentially the same, however, as that shown in the earlier figures, except that the larger opening **16c** because of its configuration will generally not be as resilient as the opening **16** in **FIG. 1** so that it cannot be stretched as much to pass over a large cane head. On the other hand, the more compact and rounded configuration of the ring **14c** is more effective to grip a large shaft of a cane and also maintain the side extensions **26a** and **26b** closely opposite to each other and provide more stiffness so far as resisting the passage of a cane shaft between such extensions is concerned. Once the cane shaft is forced through the interconnecting opening **24c**, however, the operation is the same.

The lanyard in **FIG. 3** has a somewhat different construction from that shown in the previous figures, but could be exactly the same as shown previously in **FIG. 1**. For distinction between the lanyard parts shown in **FIGS. 1** and **3**, the reference numerals applied to the same parts and structures in **FIG. 3** as in **FIG. 1** are, as noted above with respect to the cane holder **10**, the same and in **FIG. 3** where similar parts may be somewhat different, but serve similar functions, the reference numerals are identified further by the reference "c" added to such reference numeral.

In **FIG. 3**, the cane holder **10c** of the invention is provided with a woven plastic or other suitable lanyard **27c** having an outer or top section **28c** and a lower or inner section **29c** where the two ends **21** and **23** of the lanyard material may be stitched together at **32** and attached to a releasable snap fitting **39c** similar to the snap hook **39**

shown in **FIGS. 1** and **2**. The lanyard **27c** is also provided with a connecting snap fitting **34c** such as shown in further detail in **FIGS. 22** and **23**. This fitting is provided with finger release buttons **85** to bias spring arms **84a** and **84b** inwardly when either securing the snaps or in releasing them (see **FIGS. 22** and **23**) and if desired may have the end interengaging seats **90** and fingers **92** tapered as shown so that the snaps will automatically open upon the exertion of a few pounds tension in case the lanyard snags upon an external object.

Lanyard **27c** may also include a means **36c** for adjusting its length, such that the position of holder **10** may be easily adjusted by users requiring different positions or lengths depending upon the user's height and/or other proportions and the cane being used. Such means **36c** for adjustment is shown conventionally as a snap connection, but may comprise any suitable adjustment means which enables portions of the lanyard to be doubled over and held in adjacent layers or which provides for inserting or removing short lengths of lanyard material to adjust the overall length. Thus, in **FIG. 3** it may be understood that the means **36c** is essentially a connector at which two sections of the lanyard may be separated and a short extension piece, not shown, inserted to lengthen the lanyard if necessary. A further plastic buckle or connector **39c** is, as indicated above, preferably secured to the lowest end of the lanyard **28** extending from first and second ends **21** and **23** for detachably connecting the lanyard **27c** with the cane-engaging outer ring member **12c** of the cane holder **10c**. Such buckle could also have a breakaway construction, but this is normally not necessary in view of the breakaway construction of the fitting **34c**. Usually this buckle **39c** will incorporate a snap connection as shown for the connection **39** in **FIG. 1**.

**FIG. 3** also shows a cane **40** referred to above, which for illustrative purposes is a so-called swagger stick having a bulbous or hemispherical top or hand grasping portion **42** and an elongated slightly tapered straight shaft **44**, only the upper portion of which is shown. It will be noted that the opening **16c** in the center of the arcuate section **14c** is somewhat larger in longitudinal dimension and smaller in transverse dimension than the bulbous head **42** of the cane, while the opening **22c** is smaller in all dimensions than the bulbous head **42**. The interconnecting opening or passage **24c** is, furthermore preferably more or less the same width as or slightly smaller than the upper diameter of the shaft **44** of the cane so that, while the cane shaft **44** is retarded in passage through said opening, it will nevertheless pass through with some exertion of force in line with the opening. The connecting ring **48** serves as a convenient rotatable connection of the buckle **39c** and the head portion or ring mounting portion **25** of the holder **10** allowing such cane holder **10** to be oriented in a more or less horizontal disposition while entering and removing the cane **40** into and from the cane holder.

The cane **40** is shown in full lines extending through orifice or opening **16c** in **FIG. 3** in the position it might be found immediately after being placed in such orifice by slipping the cane head **42** through the orifice **16c** from the bottom, expanding the opening if necessary, or less preferably slipping the bottom of the cane into orifice **16c**. In other words, the cane can be slid from either end into the opening or orifice **16c**.

Cane **40** is also shown in **FIG. 3** in broken lines positioned within orifice **22c** after having been slid transversely through the constricted opening **24c** into the orifice **22c** where it is confined by side pressure from the sides of the orifice and by the inability of the head **42** of the cane to pass downward through said orifice **22c**.

**FIG. 4** shows the cane holder **10c** shown in **FIG. 3** being worn by a cane user **46** slung or placed about the neck of such user, in the present instance such user being shown seated on a support, not shown, that could be either a chair, a stool, a ledge, a bench, or any other support surface adaptable for or capable of supporting the human body and positioned at an appropriate height to support the body of the user in a reasonably comfortable position with his or her legs bent and resting on a surface not shown. As shown, the lanyard **27c** is looped around the neck of the seated figure with the cane holder supported on the chest of the figure of the cane user **46**. The two loops **14c** and **20c** (which is obscured by the head **42** of the cane) of the holder **10c** define the lower and upper openings **16c** and **22c** (also obscured) which are shown with cane **40** passing through a portion of the upper or smaller opening **22c** (obscured) and as will be understood resting upon the lower portion of the smaller loop **20c** at the mouth of the interconnecting passage **24c** which is visible in **FIG. 4**, but unnumbered because of the small scale. It will be understood that the relative dimensions of the cane and cane holder are the same in both **FIGS. 3** and **4**. It will also be understood that the cane has been placed in the cane holder in the case shown in **FIG. 4** in one of three ways: (a) it may have been slid, bottom of the cane first, directly into the smaller opening **22c**, which is obscured in **FIG. 4**, but visible in **FIG. 3**, in which case it is now retained in such opening by the larger head or hand grasping portion **42** of the cane being too large to pass through the opening or by the increasing size of the upper portion of the cane shaft becoming wedged in the smaller holder opening, (b) it may have been inserted into the larger opening **16c** with the bottom end of the cane entered first and then slid sidewise through the interconnecting passageway **24c** into the

smaller opening **22c** (see **FIG. 3**), and (c) the bulbous head **42** of the cane may have been passed through the larger opening or orifice **16c** defined within the outer plastic section **14c** from the bottom side of the holder **10c** and the shaft of the cane then moved laterally through the passageway **24c** until the cane shaft is contained within the  
5 smaller orifice **22c**, which is obscured in **FIG. 4**, within the inner plastic section **20c** (see **FIG. 3**).

As noted in connection with **FIG. 3** as well as **FIGS. 1** and **2**, the head **42** of the cane **40** is too large to pass through the smaller opening **22** of the cane holder and the shaft **44** can preferably only be passed through the interconnecting passageway **24c** by  
10 resiliently deforming or expanding the sides **26a** and **26b** of the passageway **24c**. In order to allow such expansion, the holder **10** or **10c** is formed of a stiff yet resilient material preferably having a smooth reasonably slippery or non-adherent surface which allows passage of the cane shaft with minimum resistance once the material of the holder **10** or **10c** is deformed. The material of construction of the cane holder **10** or **10c**  
15 must be such as to return to its original configuration once it has been deformed, and the deformation force exerted by the sides of the cane against the sides of the passageway removed. It has been found that low density polyethylene serves as a very satisfactory medium of construction. This plastic formulation is strong yet resilient, can be provided with a smooth surface and can be provided in various colors and has very  
20 satisfactory resilience characteristics for use in the cane holder. Various degrees of resilience or stiffness can be provided by different formulations of the material of construction. For example, a fairly young, vigorous user will be able to easily deform the material of construction to either bring the shaft of the cane **44** through the



restricted passageway **24** or **24c**, or in a preferred operation force the large arcuate section or opening **16** or **16c** over the head **42** of a cane that is larger than the larger opening. The stiffer and more resistant the material of construction of the holder, the more securely the cane will be held once entered into the opening in which it is to be  
5 held. A more elderly user such as, for example, the proverbial little old lady, on the other hand, may not have the physical arm or hand strength to force the material of the holder over relatively large sections of a cane, and in such case a more resilient material forming a more flexible holder can be provided. Thus, as will be seen, a maker and distributor of the cane holder of the invention may prefer to supply a series of cane  
10 holders in accordance with the invention having a range of flexibilities and colors. In each case, the material of construction should have sufficient flexibility to be deformed by the strength of the user in order to pass an oversized cane shaft through the opening **24** or **24c** or an oversized cane head through opening **16** or **16c** and then return promptly to the design dimensions of the cane holder.

15 **FIG. 5** is an elevation and **FIG. 6** is a side view of a preferred embodiment of the invention in which the configuration of the cane holder **10** is similar to or essentially the same as that shown in **FIGS. 1** and **2**. **FIG. 7** is a cross-section of such cane holder along section **7-7** of **FIG. 5**, which constitutes the ring mounting section **25** of the cane holder **10**, and **FIG. 8** is a cross-section **8-8** through **FIG. 5**. In these sections, the  
20 opening **47** at the top receives the support ring **48** shown particularly in **FIG. 1** and in **FIG. 5** in broken lines which attaches the buckle or snap fastening **39** of the lanyard **27** to the cane holder. In **FIG. 5**, the top or inner cane accommodating orifice **22** may be desirably about 1.25 inches in diameter, while the lower or outer orifice cane

accommodating orifice **16** may be about 1.50 inches in its shorter dimension and 3.25 inches in its longer dimension depending, however, upon the expected range of cane shafts that are to be handled. As indicated above, it is expected that at least one of a set of three cane holders in accordance with the invention with progressively smaller orifices **16** and **22** or **16c** and **22c** should be able to accept almost any cane made. Thus, one in possession of three identical cane holders except for the respective sizes of the orifices **16** and **22** or **16c** and **22c** should be able to suspend on their person almost any cane presently made. In such case, the difference in relative sizes of the cane accommodating orifices from one holder to the next may be assumed to be about one-half inch or, in other words, a one-half inch differential between the orifice sizes provided in each succeeding cane holder. It will be understood, however, that only a serious collector of canes is likely to have more than one cane holder in accordance with the invention.

**FIG. 9** is an elevation and **FIG. 10** is a side view of the embodiment of the cane holder of the invention shown in **FIGS. 3** and **4** in which there are essentially two adjacent more or less circular openings **16c** and **22c** within the outer ring members **12c** overall and **14c** and **20c**. **FIG. 11** is a section 11-11 through **FIG. 9**, and **FIG. 12** is a section 12-12 through **FIG. 9** similar to **FIGS. 6, 7, and 8** with respect to **FIG. 7**. In **FIG. 9**, the upper opening **22c** may be about 1.25 inches in diameter while the lower opening **16c** may be about 1.75 inches in diameter, depending, however, upon the expected range of cane shafts that the holder is intended for.

**FIG. 13** is an elevation of a lesser-preferred cane holder in accordance with the invention in which the upper portion of the holder including the upper opening **22a** as

shown takes a more rectangular configuration. In such configuration, the upper orifice is almost as wide as the lower orifice, but is by no means as high. Nevertheless, a cane shaft that slides easily in the lower opening **16a** will be tightly held in the upper opening **22a**. **FIG. 14** is a side view of the construction of the holder of **FIG. 13**, while **FIGS. 15, 16** and **17** are respectively sectional views of the construction of the cane holder at sections **15-15, 16-16** and **17-17** in **FIG. 13**. **FIGS. 18** and **19** show a partial elevation and side view respectively of an alternative top design for the ring mounting section **25a** of the holder shown in **FIG. 13**. In this further design the lanyard can be passed directly through the orifice **58** rather than through a secondary loop or ring.

The operation of the cane holder is as follows. First, the lanyard is placed around the neck of a wearer or cane user such that the first and second ends of the lanyard as well as the holding device hang in a vertical position over the chest of the owner or user, with the central portion of the lanyard positioned around the back of the neck of the owner or user. This can be done either by simply looping the lanyard over the head of the user, or particularly in the embodiment of the lanyard shown in **FIGS. 1** and **2** adjusting the adjustment slip fitting **36** or in the embodiment shown in **FIGS. 3** and **4**, alternatively by unhooking the slip connection **36c** on the lanyard and reattaching it around the neck of the user. However, it will be understood that the lanyard will usually just be looped over the head of the user. Normally, when the cane is in use, the head of the cane will, if possible, be urged through the outer loops **14, 14c** or **14a** of the various embodiments of the cane holder of the invention, and when the shaft of the cane has been received in the orifices **16, 16c** or **16a**, the shaft will then be forced transversely through the openings **24, 24c** or **24a** into smaller opening **22, 22c**

or **22a** in which either the shaft will be securely held or the cane head will be too large to pass or slip downwardly through the orifice in which the cane is contained, thereby supporting the cane as a whole. Alternatively, when the cane is not in use, the lower end of such cane may be passed or slipped through the outer or larger loops **16, 16c** or **16a** of holding device **10, 10c** or **10a**. Gravity will then urge the cane downwardly in the holding device, in effect causing the holding device to ride up along the shaft of the cane into snug engagement with the inner surface of the cane. Normally, this will occur generally near the upper section of the cane shaft, since most canes have a slightly enlarged central and upper diameter with respect to their lower diameter. Alternatively the head of the cane may be engaged by the loops **14, 14c** or **14a**. In either case before the cane becomes wedged into the opening **16, 16c** or **16a** of the holder, the cane shaft may be moved laterally through the interconnecting opening **24, 24c** or **24a** into the inner smaller openings **22, 22c** or **22a** where its shaft may be wedged in place to hold the cane.

The frictional grip or, usually and more correctly, wedging engagement, of the holder with a cane should be sufficiently strong to prevent the cane from further sliding through the outer loop or orifice, thereby providing a simple holding device for firmly holding the cane when not in use and leaving the hands of the wearer or user free to perform other tasks. However, as explained above, if the diameter of the cane **40** is smaller than the inner diameter of the outer loop or orifice, as shown, for example, in **FIG. 1**, the cane can be simply pushed inwardly through passageway **24** into the inner loop or orifice **22**, which has a smaller diameter and should frictionally grip the cane or effect wedging support of the cane at a level at which the cane becomes larger in

diameter than the opening **22**. If the shaft of the cane is relatively small, then the cane may be supported when the sides of the loop **20** engage the head **42** of the cane.

Alternatively, if the cane has a horizontally disposed handle portion, the handle can be rested on the outer loop of the cane support, thereby still maintaining the cane in a

5 generally vertical orientation. Frequently, the cane holder will be used when the user is in a sitting or resting position, and the cane will be resting in the holder between the legs and against the chest of the user. However, if such position is uncomfortable or inconvenient, the cane can be easily adjusted to either side of the user until it is ready to be used. When it is desired again to use the cane, it may be easily removed or  
10 released from the holder by gripping the holder with one hand and pulling the cane out of the holder. The flexible or elastic construction of the holder will allow the holding device to be twisted or flexed, thereby making it easier to remove the cane from the holder.

The cane, after being secured in the holding device of the invention, is held in  
15 close proximity to the body of the user, as shown in **FIGS. 2 and 4**. Such holder prevents the cane from falling or otherwise becoming disassociated from the user, and frees the hands of the user to perform everyday tasks while in a seated or even standing position, but wherein use of the cane is not required. The inventor also envisions that the lanyard which is secured around the neck of the user can be made in  
20 an infinite number of different patterns, shapes, styles and the like depending upon the particular tastes of the wearer. For example, the pattern can be chosen to match particular clothing colors or patterns, or may contain advertising material thereon for promotional reasons. In addition, the plastic cane-engaging holder itself can also be

made in any number of colors either matching the lanyard or being a favorite color of the user. The simple construction of the holder, ability to accommodate canes of different shapes and sizes, and the ability to use various color combinations result in a holder having numerous advantages and improvements over known cane holders. In addition, the holder of the present invention can also be used to hold other devices having a similar shape or structure similar to a cane, such as an umbrella, parasol, or any other device which can be hooked or otherwise held onto or secured within the device.

While three very useful embodiments of the invention have been illustrated above, other arrangements may fall within the broad scope of the invention wherein interconnecting or intercommunicating orifices, one of which is preferably larger than the cane shaft and the other of which is preferably of lesser inside dimensions than the exterior of the cane shaft, are present. The invention may also be operative where the cane shaft is smaller than the diameter of either orifice as long as the head of the cane is larger than the smaller orifice or in which the cane shaft may actually be somewhat larger than the largest orifice (in which case the resilience or flexibility of the device will still allow it to be used as a holder, although less conveniently). The device may be made adaptable to a wider variety of canes by providing, as explained above, a greater number of interconnected orifices having increasing or decreasing dimensions from orifice to orifice.

**FIGS. 20 and 21** are provided to illustrate the scope of the invention. In **FIG. 20**, a holder **62** having an outer configuration somewhat similar to that shown in **FIGS. 1 and 5** is shown with, however, a tripartite inner orifice configuration rather than a

bipartite configuration as shown in the earlier illustrated embodiment. The three separate but interconnected orifices **64**, **66** and **68**, of the tripartite orifice embodiment of **FIG. 20** are of decreasing overall diameter so that a cane is normally first entered into the largest orifice **64** and then moved through the interconnecting openings into progressively smaller orifices until the one which most securely grasps or holds the cane is found. As will be evident from the drawing in **FIG. 20**, the smaller orifice **68** could also be positioned in the apex of the structure next to the lanyard opening **57**, which would provide a more balanced holding arrangement where the cane shaft is fairly narrow and finally comes to rest or receives best support in the smallest orifice.

However, if the cane is larger, then it will finally be stabilized or held in another one of the orifices in any event, so the order is perhaps not that important. The lanyard connection **57** could also be placed midway between the two smallest orifices so that whichever orifice the cane fitted the best would likely be toward the lanyard providing a slightly better balanced rest or holding position. The elongated shape of the lanyard opening **57** in **FIGS. 20** and also **FIGS. 24** and **25** allows either a flat or a more rounded lanyard to be passed directly through the orifice as described with respect to **FIGS. 18** and **19** for a more or less round lanyard construction.

In **FIG. 21**, there is shown a further embodiment of the invention in which a progressive series of orifices are arranged serially in an oblong or elongated cane holder **70**. Each of the more or less oval or laterally elongated orifices **72**, **74**, **76** and **78** are progressively smaller and each is interconnected with at least one other orifice beside it. As will be understood, a user will place his or her cane usually in the closest estimated diameter opening to the diameter of the cane or will merely place the cane

first in the largest orifice, in this case **72**, and then move it through the interconnecting orifices until it reaches one where it is securely held. As in **FIG. 20**, it will be understood that the progression of the orifices may be in the opposite direction with respect to the lanyard orifice **58**, or the lanyard orifice may be disposed at one side of the holder instead of at one end. The lanyard orifice of this embodiment is designed more for use with an attachment ring as shown in **FIGS. 1, 3 and 5**, or as shown in **FIGS. 18 and 19** with either a ring or more usually a round lanyard, as the orifice is more like that shown in such figures.

**FIG. 22** is a diagrammatic view of a snap connector of a common variety such as might be used as the connection **34c** shown in **FIG. 3**, shown in **FIG. 22** as unlatched.

In **FIG. 22**, one section of the overall buckle or connector **80** (see **FIG. 23**) is provided on one half **82** with two oppositely deviated springs or flexible arms **84a** and **84b** that slide into chamber **88** on the opposite buckle or connector half **86** provided with an opening **88** having two undercut sections **90** into which protrusions **92** on the spring arms **84** slide when the connector is buckled or snapped together as shown in **FIG. 23**.

As will be understood, the resilience of the spring arms plus the cooperation of the protrusions **92** in the undercut section **90** when buckled or snapped together will couple the two halves **82** and **86** of the connector **80**, and hold the two ends of the lanyard together. Pressing upon the two release arms **85** will allow the spring catch to be either attached or detached. Furthermore, if the seats **90** and spring detents **92** are tapered on their upper edges, the connector can be made to be self unlocking at any force desired, dependent upon the angle selected. This arrangement guards against any accidental catching and possible pinioning or dragging of the wearer of the cane holding



device of the invention on moving vehicles, machinery or the like by snagging of the lanyard or the cane holder itself. As will be understood, any other disconnect can be used, such as the simple compression sleeve disconnect shown in **FIG. 1**, or any other suitable disconnect can be used.

5 A further embodiment of the invention is shown in elevation in **FIG. 24**. In this embodiment, a preferred design for which is shown in **FIG. 5**, a lower or outer orifice 16b is substantially oblong with slanting angular ends and arcuate corners and extends within an outwardly flaring section **14b** of a cane holder **10b** at the upper end of which is a second smaller more rounded orifice **22b**. The two sides of the orifice **22b** are  
10 generally either round as shown or otherwise arcuate, which configuration tends to center and hold by actual side contact with the cane holder a wider variety of cane shafts. The wide side-to-side extension of the orifice **16b**, which rather than having an arcuate shape as shown in **FIG. 7**, takes the form of the ends of a slanted rectangle, allows the head of an English walking cane having a conventional top cross piece to be  
15 slipped through the orifice with first one side or end of the handle inserted through and the shaft moved against the side of the orifice, and the other side or end of the handle then slipped through the orifice, if necessary stretching the side of the holder structure or plastic. The same is true with respect to a curved top cane. The additional size of the orifice also allows the outer orifice to be more easily stretched also to slip over or  
20 around the head of a swagger stick or ornate, carved or other more massive walking stick or cane head. The large size of the orifice **16b** and thinner outer section of plastic **18b** surrounding the orifice **16b** in general allows greater stretching of the plastic section surrounding the orifice in order to fit over sections of cane which might

otherwise not normally be insertable in the orifice. The embodiment shown in **FIG. 24** shows a side-to-side opening **57** at the top of the cane holder for attachment directly to a flat lanyard if desired. An intermediate attachment ring such as shown in other figures could pass through such opening also.

5       The more convenient, but also more complicated side-to-side ring attachment is shown in other figures, such as **FIGS. 1, 3, 5, 9 and 13** heretofore described is usually a preferred embodiment. The use of the ring allows the cane holder to lie flat against the body when supported from a lanyard. However, the side-to-side opening to receive the lanyard directly as shown in **FIGS. 20, 21, 24 and 25** or, as a variation, **FIGS. 18**  
10 and **19** could also be used.

**FIG. 25** is an elevation of a further embodiment of the cane holder of the invention in which the outer more or less straight section **18b** on one side of the larger orifice of the holder is bisected at **59**. A cylindrical gate **60**, which may slide over the opening and interengage with the opposite side is shown on this straight section. Such  
15 cylindrical gate **60** is shown partially retracted, but can, as will be understood, be slid over the opening to form a closed orifice. This arrangement provides considerable further convenience, since if the user of the cane wishes, rather than inserting a cane into the cane holder, either from the bottom or smaller end or over the top stretching the structure of the holder over the cane handle, such user can merely pull back the spring  
20 biased gate structure, i.e. slide the cylindrical section over the straight section of the holder and slide the cane into the opening through such opening. The slide gate will then spring back, confining the cane in the larger orifice **16b** from which it can be moved to the smaller orifice **22b** if necessary. It may be advisable when the gate **60** is

provided to form the cane holder from a stiffer material so that the unconnected ends of the structure around the large orifice and particularly section **18b** are more rigid, allowing more certain matching of the two ends when or as the slide gate **60** is closed. Since the gate is openable to insert a cane into the large orifice, the material of the holder may not need to be as flexible as otherwise, although the extensions **26a** and **26b** defining the interconnection between the two orifices should be relatively resilient to allow passage of a cane shaft between the two orifices. While the slide gate arrangement adds some complication to the cane holder arrangement of the invention, it also may be preferred by some users for convenience in initially entering the cane into the holding device of the invention.

As explained in detail above, the cane holder of the invention by its combination of the use of multiple intercommunicating orifices of different sizes, plus the use of a resilient plastic that does not have a significant long-term memory, but instead has essentially complete return to previous shape and form after being deformed, has provided a cane holder that is not only more efficient and effective than previous cane holders, but that can also be easily and simply produced for a minimum cost and essentially improve the quality of life for the users of canes. As indicated above, by the use of about three different basic sizes of the cane holder of the invention one may provide for holders for virtually every size and shape of cane normally made. In addition, the embodiment of the invention shown in **FIGS. 1, 2 and 5**, as well as **24 and 25**, by the provision of a larger oblong initial cane receiving orifice, very considerably increases the ability of the cane holder of the invention to adjust to odd shapes and sizes and particularly large diameter handles and shafts of canes. As indicated above,

by the use of about three different basic sizes of the cane holder of the invention one may provide for holders for virtually every size and shape of cane normally made.

Normally the average cane user will select a holder in the middle of the range for the cane or canes in use by that user. Most cane users have, at the most, only two or three canes which tend, or the canes they actually use tend, to be fairly similar in size. Some users of canes, however, tend to collect all sorts of canes and these users, or collectors, may require several of the basic cane holders of the invention in different sizes. However, the improved embodiment of the invention shown in **FIGS. 20 and 21** have considerable more adaptability to various sized canes so that by use of such embodiment a much wider variety of canes can be adapted to a significantly greater variety of sizes and shapes of canes. As will be noted from **FIGS. 1, 2, 5, 13, 24 and 25**, the cane holding orifices do not need to be strictly round or oval, but can be of various internal shapes for additional flexibility in adaptation to canes of various types. The relatively thin side extensions between adjacent orifices as shown in **FIGS. 20, 21, 24 and 25** also allow relatively large canes to be passed or pressed through the openings. However, in most cases the more sturdy but wider openings shown in **FIGS. 1, 3, 5, 9 and 13** will be preferred between the inward extensions or expansions **26a** and **26b** denoted especially in **FIG. 1** and forming in **FIGS. 1, 3, 7 and 13** the openings **24, 24c** and **24a**, respectively.

It will be understood that various lanyards can be used with the cane holder of the invention. For example, the lanyard, either a flat lanyard or round lanyard, can be slipped directly through the lanyard openings shown in **FIGS. 20, 24 and 25** and the lanyard ends bound or secured to each other by a plastic compression sleeve slipped

over the ends. Such compression sleeve may be either rigid or flexible and could itself constitute an effective breakaway fitting or disconnect. The same arrangement may be used with the ring connection shown in **FIGS. 1, 3, 5, 9 and 13**. The breakaway aspect may also constitute a partial function of the connector or buckle **39c** shown in **FIGS. 3**  
5 and **4**, which most preferably should also be easily disconnected so that the user of the cane holder can merely by pressing on an integral latch disconnect the lanyard from the cane holder, allowing the user to remove the cane holder from the lanyard, place the cane holder over the head of the cane, for example, or otherwise place the cane in the holder, secure the cane in the appropriate orifice in the cane holder and then reattach  
10 the cane holder to the lanyard so it will be available upon demand. This makes the cane holder even more convenient than it would otherwise be. The lanyard may also be provided with a slide adjustment, as shown in **FIG. 1**, that in effect determines the size of the neck opening in the lanyard. This will somewhat adjust the effective length of the lanyard without incorporating an actual length adjustment.

15 As indicated above, the cane holder of the invention is not only utilitarian and practical but also can be decorative. For example, the plastic holder itself can be formed from various colors of plastic not only in solid colors, but because of the shape of the holder of mixtures of colors such as swirls, multi-colors, and the like. In addition, the lanyard can be made in various decorator fabric designs and colors including color  
20 coordination with the outfit of the user.

While the present invention has been described at some length and with some particularity with respect to the several described embodiments, it is not intended that it should be limited to any such particulars or embodiments or any particular embodiment,

but it is to be construed with references to the appended claims so as to provide the broadest possible interpretation of such claims in view of the prior art and, therefore, to effectively encompass the intended scope of the invention.

1. A method of determining a value of a function of a variable, the method comprising:  
2. receiving a value of the variable;  
3. determining a value of the function of the variable based on the received value;  
4. outputting the value of the function of the variable.

5. A system for determining a value of a function of a variable, the system comprising:  
6. a processor;  
7. a memory; and  
8. a computer program stored in the memory and executable by the processor, the computer program comprising instructions for:  
9. receiving a value of the variable;  
10. determining a value of the function of the variable based on the received value;  
11. outputting the value of the function of the variable.